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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,699	06/25/2003	Roberto Gianella	CISCP826	3398

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AKA CHAN LLP / CISCO
900 LAFAYETTE STREET
SUITE 710
SANTA CLARA, CA 95050

EXAMINER	
MUI, GARY	

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/603,699	GIANELLA ET AL.	
	Examiner	Art Unit	
	Gary Mui	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-11,14-19 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-11,14-19 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 4 – 11, and 14 – 19 have been considered but are moot in view of the new ground(s) of rejection.

2. Claims 2, 3, 12, 13, and 20 has been cancelled as indicated by the amendment dated September 11, 2007.

3. Claims 1, 4 – 11, and 14 – 19 and newly added claim 21 are currently pending.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1, 4 – 11, 14 – 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johansen (US 6,631,144 B1) in view of Huscroft et al. (US 6,188,692 B1; hereinafter "Huscroft").

For claim 1, Johansen teaches receiving a remotely transmitted signal formatted in accordance with the synchronous data transmission standard by the transponder (see column 2 lines 20 – 25; the multi-rate transponder receives an incoming data stream); recovering a clock signal from the remotely transmitted signal by the transponder (see column 2 lines 28 – 33, from the incoming data stream the clock signal is recovered); in a first mode, directing the recovered clock signal to a clock input of the transceiver (see column 2 lines 39 – 42; a clock signal is generated based on the received incoming data stream and will switch between the different data rates modes of the incoming data stream). Johansen fails to teach in a second mode, directing a locally generated clock to the clock input, and switching from the first mode to the second mode upon loss of the remotely transmitted signal or upon loss of recovered framing in the remotely transmitted signal but does teach that the transponder can support several communication protocols like SDH and Gigabit Ethernet (see column 1 lines 6 – 20). Huscroft from the same field of endeavor teaches a device for interfacing between a SONET and ATM network where the integral clock recovery circuit lock on to and recover the clock form the incoming continuous stream (see column 2 lines 15 – 41). Therefore, it would have

been obvious to one of ordinary skill in the art at the time of the invention was made to the second mode as taught by Huscroft into the multi-rate transponder of Johansen. The motivation for doing this is improve the versatility of the device by integrating the two modes into a signal device.

For claims 4 and 5, Johansen fails to teach the synchronous data transmission standard is a SONET standard or a G.709 standard, but does teach that the synchronous data transmission is SDH (see column 1 lines 6 – 20). However, it is well known in the art to use SONET or G.709 standard as the synchronous data transmission standard. Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use SONET or G.709 standard as the synchronous data transmission standard to increase the versatility of the system.

For claim 6, Johansen teaches the asynchronous data transmission standard is an Ethernet standard (see column 1 lines 6 – 20).

For claim 7, Johansen teaches transferring data recovered form the remotely transmitted signal to the transceiver for demultiplexing (see column 3 line 55 – column 4 line 6).

For claim 8, Johansen teaches using the transceiver to multiplex together multiple data streams to form a data signal for modulation onto an optical signal, the data signal being clocked by the recovered clock signal in the first mode and by the local clock in the second mode (see column 3 line 55 – column 4 line 6).

For claims 9 and 10, Johansen teaches during the first mode, filtering the clock input using a phase lock loop operating at a first (fast) time constant (see column 2 line 66 – column 3 line 2). Johansen fails to teach when switching from the second mode to the first mode, filtering

the clock input using the phase lock loop operating at a second time constant, the second time constant being shorter than the first time constant and when switching from said first mode to said second mode, filtering said clock input using said phase lock loop operating at said second time constant. Huscroft from the same field of endeavor teaches the integral clock recovery circuit includes a first voltage control oscillator (VCO) operative to lock on to the incoming continuous stream of data, a phase/frequency detector operative to compare the phase and frequency of a first reference clock signal and the divided down VCO output signal from a first divider circuit, and a data phase detector operative to compare the phase of the incoming continuous stream of data and the divided down output signal from the first divider circuit. Preferably, the first VCO is switched from the phase/frequency detector to the data phase detector when a frequency difference between a frequency of the divided down output signal from the first VCO and that of the first reference clock signal is less than or equal to a predetermined threshold, and the first VCO is switched back to the phase/frequency detector when the frequency difference exceeds the predetermined threshold (see column 2 line 49 – 64). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to switch between modes as taught by Huscroft into the multi-rate transponder of Johansen. The motivation for doing this is to increase the versatility of the system.

For claim 11, Johansen teaches a transponder that receives a remotely transmitted signal formatted in accordance with said synchronous data transmission standard and recovers a clock signal from said remotely transmitted signal (see column 2 lines 20 – 25; the multi-rate transponder receives an incoming data stream); a local clock source (see column 2 line 39 –

42; reference clock); and a multiplexer that, in a first mode, directs said recovered clock signal to a clock input of said transceiver (see column 2 lines 39 – 42; a clock signal is generated based on the received incoming data stream and will switch between the different data rates modes of the incoming data stream). Johansen fails to teach in a second mode, directs output of said local clock source to said clock input, said multiplexer switching from said first mode to said second mode upon loss of said remotely transmitted signal and switching from said first mode to said second mode upon loss of recovered framing in said remotely transmitted signal but does teach that the transponder can support several communication protocols like SDH and Gigabit Ethernet (see column 1 lines 6 – 20). Huscroft from the same field of endeavor teaches a device for interfacing between a SONET and ATM network where the integral clock recovery circuit lock on to and recover the clock form the incoming continuous stream (see column 2 lines 15 – 41). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to the second mode as taught by Huscroft into the multi-rate transponder of Johansen. The motivation for doing this is improve the versatility of the device by integrating the two modes into a signal device.

For claims 14 and 15, Johansen fails to teach the synchronous data transmission standard is a SONET standard or a G.709 standard, but does teach that the synchronous data transmission is SDH (see column 1 lines 6 – 20). However, it is well known in the art to use SONET or G.709 standard as the synchronous data transmission standard. Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use SONET or

G.709 standard as the synchronous data transmission standard to increase the versatility of the system.

For claim 16, Johansen teaches the asynchronous data transmission standard is an Ethernet standard (see column 1 lines 6 – 20).

For claim 17, Johansen teaches the data recovered from the remotely transmitted signal is transmitted to the transceiver for demultiplexing (see column 3 line 55 – column 4 line 6).

For claims 18 and 19, Johansen teaches a phase lock loop that, during said first mode, filters said clock input using a first time constant (see column 2 line 66 – column 3 line 2). Johansen fails to teach when switching from said second mode to said first mode, filters said clock input using a second time constant, said second time constant being shorter than said first time constant and when switching from said first mode to said second mode, said phase lock loop filters using said second time constant. Huscroft from the same field of endeavor teaches the integral clock recovery circuit includes a first voltage control oscillator (VCO) operative to lock on to the incoming continuous stream of data, a phase/frequency detector operative to compare the phase and frequency of a first reference clock signal and the divided down VCO output signal from a first divider circuit, and a data phase detector operative to compare the phase of the incoming continuous stream of data and the divided down output signal from the first divider circuit. Preferably, the first VCO is switched from the phase/frequency detector to the data phase detector when a frequency difference between a frequency of the divided down output signal from the first VCO and that of the first reference clock signal is less than or equal to a predetermined threshold, and the first VCO is switched back to the phase/frequency detector when the frequency difference exceeds the predetermined threshold (see column 2

line 49 – 64). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to switch between modes as taught by Huscroft into the multi-rate transponder of Johansen. The motivation for doing this is to increase the versatility of the system.

For claim 21, Johansen teaches in switching from said second mode to said first mode, directing said recovered clock signal to said clock input of said transceiver; and filtering said clock input using said phase lock loop operating at a said first time constant when said phase lock loop is locked to said recovered clock signal (see column 2 line 66 – column 3 line 2).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Doshi et al. (US 5,483,527) and Boyle et al. (US 6,831,932 B1) are cited to show recoverable reference clock architecture for SONET/SDH and ethernet mixed bidirectional applications.

9. **Examiner's Note**: Examiner has cited particular paragraphs or columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary Mui whose telephone number is (571) 270-1420. The examiner can normally be reached on Mon. - Thurs. 9 - 3 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GM 10·16·2007

CHIRAG G. SHAH
PRIMARY PATENT EXAMINER